



Amendments to the Specification:

Please replace paragraph beginning on page 3, line 8 with the following amended paragraph:

In another aspect, a portable computer system with multimode wireless access includes a radio 'sniffer' (to determine which protocols are available); a processor; an input recognizer embodied in a said program storage device, said input recognizer adapted to receive input from a said user; a the program storage device coupled to said input recognizer for receiving said user input; and a multi-mode wireless device on a single substrate coupled to the processor. The multimode access device includes an analog portion integrated on the substrate with a cellular radio core; and a short-range wireless transceiver core as well as a digital portion integrated on the substrate with a reconfigurable processor core coupled to the cellular radio core and the short-range wireless transceiver core, the reconfigurable processor adapted to handle a plurality of wireless communication protocols; and a high-density memory array core coupled to the reconfigurable multi-processor core.

Please replace the paragraph beginning on page 9, line 22 with the following amended paragraph:

In one embodiment, the cellular radio core 110 includes a transmitter/receiver section that is connected to an off-chip antenna (~~not shown~~). The transmitter/receiver section is a direct conversion radio that includes an I/Q demodulator, transmit/receive oscillator/clock generator, multi-band power amplifier (PA) and PA control circuit, and voltage-controlled oscillators and synthesizers. In another embodiment of a transmitter/receiver section ~~112~~, intermediate frequency (IF) stages are used. In this embodiment, during cellular reception, the transmitter/receiver section converts received signals into a first intermediate frequency (IF) by mixing the received signals with a synthesized local oscillator frequency and then translates the first IF signal to a second IF signal. The second IF signal is hard-limited and processed to extract an RSSI signal proportional to the logarithm of the amplitude of the second IF signal. The hard-limited IF signal is processed to extract numerical values related to the instantaneous signal phase, which are then combined with an RSSI signal.

Please replace paragraph beginning on page 10, line 22 with the following amended paragraph:

Turning now to the short-range wireless transceiver core 130, the short-range wireless transceiver core 130 contains a radio frequency (RF) modem core 132 that communicates with a link controller core 134. The processor core 150 controls the link controller core 134. In one embodiment, the RF modem core 132 has a direct-conversion radio architecture with integrated VCO and frequency synthesizer. The RF-unit 132 includes an RF receiver connected to an analog-digital converter (ADC), which in turn is connected to a modem 146 performing digital modulation, channel filtering, AFC, symbol timing recovery, and bit slicing operations. For transmission, the modem is connected to a digital to analog converter (DAC) that in turn drives an RF transmitter.

Please replace paragraph beginning on page 11, line 16 with the following amended paragraph:

In one exemplary operating sequence, a user is in his or her office and browses a web site on a portable computer through a wired local area network cable such as an Ethernet cable. Then the user walks to a nearby cubicle. As the user disconnects, the device 100 initiates a short-range connection using a Bluetooth™ connection. When the user drives from his or her office to an off-site meeting, the Bluetooth™ connection is replaced with cellular telephone connection. Thus, the device 100 enables easy synchronization and mobility during a cordless connection, and ~~open~~ opens up possibilities for establishing quick, temporary (ad-hoc) connections with colleagues, friends, or office networks. Appliances using the device 100 are easy to use since they can be set to automatically find and contact each other when within range.

Please replace paragraph beginning on page 15, line 20 with the following amended paragraph:

Additionally, the processor 220 is connected to the multi-mode wireless communicator device 100, which is connected to an antenna 232. The device 100 satisfies the need to access electronic mail, paging, mode/facsimile, remote access to home computers and the Internet. The antenna 232 can be a loop antenna using flat-strip conductors such as printed circuit board wiring traces as flat strip conductors have lower skin effect loss in the rectangular conductor than that of antennas with round-wire conductors. One simple form of wireless communication device 100 is a wireless link to a cellular telephone where the user simply accesses a cellular channel similar to the making of a regular voice call. ~~Also mention that one~~ One channel is reserved for making voice calls. Typically, data channels are not useable for voice communications because of the

latency and low packet reliability, so a dedicated voice channel is necessary. In one implementation, GPRS, there are a total of 8 channels per user, one of which is dedicated to voice when the user decides to make a voice call. This voice connection is independent of the data connection.

Please replace paragraph beginning on page 16, line 11 with the following amended paragraph:

The processor 220 of the preferred embodiment accepts handwritings as an input medium from the user. A digitizer 234, a pen 233, and a display LCD panel 235 are provided to capture the handwriting. Preferably, the digitizer 234 has a character input region and a numeral input region that are adapted to capture the user's handwritings on words and numbers, respectively. The LCD panel 235 has a viewing screen exposed along one of the planar sides of the enclosure ~~are provided~~. The assembly combination of the digitizer 234, the pen 233 and the LCD panel 235 serves as an input/output device. When operating as an output device, the screen 235 displays computer-generated images developed by the CPU 220. The LCD panel 235 also provides visual feedback to the user when one or more application software execute. When operating as an input device, the digitizer 234 senses the position of the tip of the stylus or pen 233 on the viewing screen 235 and provides this information to the computer's processor 220. In addition to the vector information, the present invention contemplates that display assemblies capable of sensing the pressure of the stylus on the screen can be used to provide further information to the CPU 220.